Data Submitted (UTC 11): 6/25/2021 6:00:00 AM
First name: Leroux
Last name: Jocelyn
Organization: Western Watersheds Project
Title: Washington and Montana Director
Comments: Dear Objection Reviewing Officer,

Pursuant to 36 CFR 219 Subpart B, and by means of this letter the parties listed below object to the East Paradise Range Environmental Assessment (EA) and the Finding of No Significant Impact (FONSI).

The arguments in support of our objection and exhibits are submitted herein. Reference materials used in our arguments that the Forest Service does not already have are attached with this letter.

The notice for Opportunity to Object to the East Paradise EA was printed in the Bozeman Daily Chronicle on May 13, 2021; therefore, this objection is timely.

References when identifying prior comments (objection requirement to tie objections to issues identified in previous comments):

* 2020 EA Comments (Western Watersheds Project and others) Objectors

Jocelyn Leroux (Lead Objector)

Washington and Montana Director Western Watersheds Project

Thus, although range is specifically mentioned in the Act, it does not mean that it must be included as a use in all instances. Due to changes in wildlife presence, increased drought related to climate change, and a declining demand for public lands livestock and grazing opportunities,

consideration must be given to reducing harm rather than simply allowing all uses.

2. Resource Specific Concerns
a. Impacts to Wildlife

Numerous wildlife species are adversely affected by livestock grazing in the East Paradise grazing allotments. Particularly at risk for adverse impacts is the threatened grizzly bear. Grizzly bears remained federally protected under the Endangered Species Act and thus protection of this species must be a priority for any decision made by the Forest Service (FS). The biological evaluation found that the action of reissuing permits for the East Paradise grazing allotments is likely to adversely affect grizzly bears. However, the EA, FONSI, and accompanying assessment documents contain inadequate analysis of the various impacts to grizzly bears that occur due to livestock grazing as well as inadequate coexistence measures to reduce grizzly-livestock conflict and the subsequent removal of grizzly bears.

According to the 2020 Yellowstone Ecosystem Subcommittee mortality reduction report and recommendations,4 conflict with livestock is a primary source of mortality for grizzly bears outside of the recovery zone but inside the Demographic Monitoring Area (DMA). In addition, at the recent IGBC meeting, John Steuber from APHIS-Wildlife Services gave a presentation entirely based on the premise that livestock-grizzly conflicts are increasing, and therefore coexistence measures must also begin to increase. Every grazing allotment in the project area is within the DMA, and the expansion of the Sixmile North allotment extends into the recovery zone, where the entire Sixmile South allotment resides. However, instead of fully assessing the potential for grizzly-livestock conflict based on relevant data, the FS downplayed the likelihood of conflict, and the impacts to the grizzly bear population were conflict to occur and bears removed in response.

The Selected Alternative Wildlife Addendum 5 cites a 2019 research paper6 that sought to better understand the dynamics that increased livestock grizzly conflicts. This paper identified certain

allotment characteristics that were associated with higher levels of livestock depredation. Among these were the size of the allotments, ruggedness, remoteness/human presence, and number of livestock.

While this paper is cited, there does not appear to be a comprehensive analysis of how each of these factors may impact the likelihood of livestock-grizzly conflict on each allotment reviewed in this EA. The insights of the paper are not applied. In fact, the Wildlife Addendum claims that because of the small amount of suitable grazing acres, that the likelihood of depredation is reduced. However, if this results in the concentration of livestock in a smaller area, this may in fact serve to increase the likelihood of conflict. In addition, Wells et al., found that there were higher documented cattle depredations by bears and wolves on forested pastures with little human supervision. On the Sixmile

4 Pils, A. et al. (2020) Recommendations for reducing bear-human conflicts and grizzly bear mortalities in the Yellowstone Ecosystem: a report to the Yellowstone Ecosystem Subcommittee.

5 Selected Alternative Wildlife Addendum at 14-15

6 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

North allotment "[l]ounging areas were commonly found in primary conifer rangeland areas."7 If any of the East

Paradise allotments, or suitable grazing acres on these allotments exist in a more remote

and forested setting, the Forest Service must take this into consideration when authorizing livestock grazing to best understand and mitigate the impacts to grizzly bears. Because of the added challenges associated with managing livestock in such rugged and remote settings, the Forest Service must assess and disclose if these conditions exist on these grazing allotments. If these conditions do exist, the

allotments are not appropriate for livestock grazing due to the increased risk to grizzly bears.

In addition, if the Forest Service does choose to authorize livestock grazing on the East Paradise allotments, there must, at the very least, be strong requirements for coexistence measures. The FONSI concludes that, "given the low likelihood of a depredation/self-defense event and subsequent removal or mortality of a grizzly bear, the growing population of grizzly bear, and the multitude of management actions that can be taken to mitigate a depredation event, I find the potential effects are not significant."8 This conclusion relies heavily on the use of management actions to reduce the likelihood of grizzly-livestock conflict to ensure the potential effects are not significant. Yet, the mitigation measures that are listed in the AMP are inadequate. While Wells et al., state that "the utility of carcass removal in reducing depredations...remains unclear, especially on open range farther from human settlement,"9 they also say that removing or rendering livestock carcasses can be an effective method to reduce human-carnivore conflicts. However, the only guidance is to move carcasses at least a half mile away from any camping facilities, or at least 200 yards from live streams, springs, lakes, riparian areas, system roads and trails, and trailheads.10 Full livestock carcass removal would better

address the potential for human-carnivore conflict and may help reduce future depredations.

Additionally, the AMP should require permittees and their representatives to carry bear spray when working within allotments, rather than to just strongly recommend the use of bear spray.

Next, number seven only says that "[t]he Forest and District will continue to identify and implement opportunities that reduce the potential for grizzly bear conflicts."11 This does not specify what conflict prevention measures are being explored and what may be implemented. In our previous comments we provided a list of measures that should be implemented were livestock grazing

authorized in the East Paradise allotments. However, none of the measures we recommended were included in the Draft Decision so we have included them again. These prevention measures should be applied to any livestock grazing permit as they have been developed to reduce both wolf and

grizzly-livestock conflicts. These measures include:

? Immediately removing and composting livestock carcasses found on the allotments;

? Removing sick or injured livestock from the allotments, so they are not targeted by wolves or grizzlies;

? Delaying turnout until after early to mid-June if an active wolf den site is within 1 mile of an

allotment unit, so deer will be birthing fawns and can provide an abundant and easy prey source for wolves;

7 Soil Resource Report at 5.

8 FONSI at 14

9 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

10 Selected Alternative Wildlife Addendum at 4.

11 Ibid.

? If an active wolf den site is within or adjacent to an allotment, delay turnout of calves in the area until after they average 200 lbs. in weight to minimize depredation potential;

? Prohibit allotment management activities by humans near active wolf den sites during the denning period, to avoid human disturbance of the site;

? Prohibit placing salt or other livestock attractants near wolf dens or rendezvous sites, to minimize cattle use of these sites;

? In the event of depredation, if future depredations might occur, livestock should be moved to private pastures;

? During times that livestock are in a unit with an active wolf den site or rendezvous site, require the permittee to inspect that unit at least 2 days/week;

? Managing grazing livestock near the core areas (dens, rendezvous sites) of wolf territories to minimize wolf-livestock interactions, such as by placing watering sites, mineral blocks, and supplemental feed away from wolf core areas;

? Increase the frequency of human presence by using range riders.

Proactive nonlethal deterrents are the best way to reduce grizzly bear mortality due to conflict with livestock, yet none of these are incorporated into the AMPs. Instead, the likelihood of depredations and subsequent management removals of grizzlies is discussed as a given. The FS states that "[i]t is feasible that there would be

an increased risk of surprise encounters with forest users or livestock producers and an increased risk of livestock losses (through depredation) that could lead to bear injuries or mortalities through management removals."12 These removals are accepted even with the finding that livestock grazing on the East Paradise allotments is likely to adversely affect grizzly bears. The FS simply explains this away saying that "[r]emoval and relocation of grizzly bears, if it were to occur, would likely result in the short-term reduction of grizzly bear abundance in the project area itself, and to some extent the larger vicinity, at least until new bears are recruited into the area through emigration."13 However, this does not consider the impact of these management removals if the grizzlies killed are females. Currently, the grizzly bear population in the United States exists in several isolated populations. Scientists have found that without the ability for movement between the

populations, they will start to suffer from genetic isolation, a finding that was upheld by the 9th Circuit Court of Appeals, when the court blocked the Fish and Wildlife Service's 2017 attempt to delist the

Yellowstone grizzly.14 As female grizzly bears drive the population, the loss of these due to livestock conflict should not be deemed acceptable.

The possibility of grizzly removal due to conflicts with livestock is similarly downplayed because the FS states that no grizzly bear depredations have occurred on these allotments. However, the FS also states that there have been no grizzly bear depredations on cattle on the Forest,15 which is a false statement. According to Montana Wildlife Services Annual Animal Damage Management Work Plans from 2017-2019, there were one adult cow and two calves killed by grizzlies in 2017, with one

calf injured; a cow that was reportedly killed by a grizzly bear but never confirmed in 2018; and one adult cow confirmed to be killed by a grizzly in 2019. It is unclear why the FS chose to misrepresent

this in the Selected Alternative Wildlife Addendum. Given that the Wells et al. paper also discloses that 25 percent of grizzly depredations on livestock within the DMA during the study period of 1992-2014

12 Ibid at 14.

13 Ibid at 15.

14Crow Indian Tribe v. US, 965 F.3d 662 (9th Cir. 2020).

15 Ibid.

occurred on the Custer Gallatin National Forest,16 the false claim that no grizzly bear depredations have

occurred on the Forest is even more confounding.

An additional omission is the lack of analysis regarding the impact of declining whitebark pine on grizzly bear diets. In our previous comments17 we suggested the Forest Service assess the likely future availability of key food sources due to the December 2, 2020 proposal to list whitebark pine under the Endangered Species Act. There have been numerous studies that suggest grizzly bears supplement their diet with more meat when whitebark pine nuts are less available,18 yet the Forest Service failed to analyze how this may impact grizzly depredations in the project area.

The cumulative impacts of livestock grazing on the East Paradise allotments in conjunction with private land activities are also not adequately considered. In the Wildlife Services work plans, they state that, "[i]t's important to recognize that in many cases, livestock losses occur on properties (e.g. Federal, State, private) adjacent to FS lands and often a portion of the total predator take on FS property is a consequence of those losses."19 Aside from stating that "[w]hen the expected impacts of the proposed project area combine with those of these private actions, there would be a cumulative impact on grizzly bear in the action area,"20 the analysis of such impacts is completely missing. If a

cumulative negative impact could occur from authorizing livestock grazing on the East Paradise allotments, the Forest Service must seek to fully understand and mitigate this impact.

Finally, it is surprising that there is not a Biological Opinion and Incidental Take Statement associated with this project. The allotments clearly overlap with grizzly bear habitat and the chance that grizzly bears will depredate on livestock does exist. Because conflict with livestock is a leading cause of death for grizzly bears within the Greater Yellowstone Ecosystem, this threat must be taken seriously and analyzed at the appropriate levels.

In addition to the impacts to grizzly bears, the reauthorization of grazing on any of the East Paradise allotments has impacts on other wildlife species, most notably wolves, bison, deer, and elk. Similar to grizzly bears, coexistence measures to reduce wolf-livestock conflicts are not adequate in the AMPs. In fact, wolves are hardly mentioned in any of the disclosed analyses. Despite wolves being federally delisted, they remain a Region 1 sensitive species in Montana,21 and thus some level of protection for the species must be granted. While there is no information regarding whether wolf depredations have occurred on the East Paradise allotments, the Forest should act as if the possibility

exists to avoid killing wolves in response to wolf-livestock conflict. With the recently passed bills in the 2021 Montana Legislature, wolves will face greater hunting and trapping pressure and thus must be

16 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

17 EA comments at 3

18 van Manen, F.T, Costello, C.M., Haroldson, M.A., Bjornlie, D.D., Ebinger, M.R., Gunther, K.A., Thompson, D.J., Higgs, M.D., Tyers, D.B., Cain, S.L., Frey, K.L., Aber, B., Schwartz, C.C. (2015). Response of Grizzly Bears to Changing Food Resources in the Greater Yellowstone Ecosystem. Yellowstone Science 23(2): 2015, pages 26-31.; Costello, C. M., van Manen, F. T., Haroldson, M. A., Ebinger, M. R., Cain, S. L., Gunther, K. A., & Bjornlie, D. D. (2014). Influence of whitebark pine decline on fall habitat use and movements of grizzly bears in the Greater Yellowstone Ecosystem. Ecology and evolution, 4(10), 2004-2018.

19 Montana Wildlife Services Annual Animal Damage Management 2019 Work Plan.

20 Selected Alternative Wildlife Addendum at 17.

21 Sensitive Species List, Forest Service, Region 1, February 2011

protected from this additional harm on public lands. The non-lethal coexistence measures listed above should be applied to any grazing allotment that overlaps wolf habitat if it is authorized for grazing.

The FONSI again ignores concerns we brought up in our previous comments22 regarding the impacts of livestock grazing on deer and elk forage. While there are very small areas suitable for cattle grazing in each allotment, these may also be the most suitable for elk and deer, yet these native grazers are displaced to steeper elevations, or onto private property. The EA admits that "[t]he no grazing

alternative may also encourage elk to remain on National Forest lands and alleviate distribution problems that can occur with elk seeking available forage on adjacent private lands."23 Having elk remain on Forest Service lands may also alleviate depredation concerns as they, a natural prey source, would be the most readily available prey to grizzlies and wolves.

b. Impacts to Vegetation

The FONSI states that, "[w]hile there is scientific literature that provides evidence that domestic livestock grazing can have adverse effects on the natural and human environment, the

analysis has fully analyzed and disclosed these effects."24 While this acknowledges adverse effects of livestock grazing in regards to vegetation, it fails to address these adverse effects. This

acknowledgement also fails to address numerous studies presented in our previous comments regarding the efficacy of utilization limits and the assumption that earlier season grazing will reduce timothy without harming native bunchgrasses.

First, the East Paradise Range Environmental Assessment Upland and Riparian Vegetation Report claims that "[a]ll livestock grazing alternatives analyzed in the EA, including the preferred alternative, apply cattle grazing at light to moderate grazing intensity."25 According to numerous

studies, moderate grazing in semi-arid grasslands, desert, and coniferous forest rangelands, involves

about 35-45% use of forage,26 implying that light use is somewhat less than this. While most utilization limits outlined in the AMPs do fall within this definition of light to moderate use, the allowable utilization level of 50 percent for early season riparian areas is still out of place and the reasoning behind this number is not appropriately supported. Further, research recommends levels of 25% utilization for livestock and 25% for wildlife with 50% remaining for watershed protection.27 So

although the Upland and Riparian Vegetation Report claims that this utilization level is adequate for native grass protection, the research included here and in our previous comments suggests otherwise.28

Next, there is not an adequate explanation of how harm to native bunchgrasses will be avoided during early season grazing. Instead, the Upland and Riparian Vegetation report states that "[c]attle

22 EA comments at 1-2

23 EA at 23

24 FONSI at 11.

25 Environmental Assessment Upland and Riparian Vegetation Report at 41

26 Holechek, J. L., Gomez, H., Molinar, F., & Galt, D. (1999). Grazing studies: what we've learned. Rangelands Archives, 21(2), 12-16. citing: (Johnson 1953, Klipple and Costello 1960, Beetle et at. 1961, Paulsen and Ares 1962, Houston and

Woodward 1966, Launchbaugh 1967, Martin and Cable 1974, Skovlin et al. 1976, Sims et al. 1976).

27 Galt, Dee, Francisco Molinar, Joe Navarro, Jamus Joseph and Jerry Holechek. 2000. Grazing capacity and stocking rate. Rangelands 22(6):7-11.

28 EA comments at 8 citing: Mueggler, W. F. (1975). Rate and pattern of vigor recovery in Idaho fescue and bluebunch wheatgrass. Rangeland Ecology & Management/Journal of Range Management Archives, 28(3), 198-204.; Holechek,

J. L., Pieper, R. D., & Herbel, C. H. (2011). Range management: principles and practices (No. Ed. 6). Prentice-Hall.

grazing applied in June can be used to purposely defoliate timothy and suppress its vigor and growth. In turn, vigor and growth of bluebunch wheatgrass and Idaho fescue will increase, provided cattle grazing in June does not harm these desirable native grasses."29 This does not provide any evidence that cattle grazing in June will avoid harming native grasses, potentially making this technique of early grazing to reduce timothy more harmful than beneficial. Additionally, it is unclear how the FS plans to manage that considering the cited studies that claim, "moderate grazing intensity in late spring-early summer does not harm bluebunch wheatgrass or Idaho fescue on foothill and mountain rangeland, provided moderate grazing does not occur in late spring-early summer more often than two successive years,"30 which is significantly different from research cited in our EA comments that bluebunch

wheatgrass may require six years of nonuse for recovery from a one-time removal of 50 percent of the shoot system during the active growing period, even in an environment of over 17 inches of precipitation.31 This must be remedied.

Finally, the Upland and Riparian Vegetation report draws a false equivalence between livestock grazing and native grazers despite our previous comments to this point.32 The FS states that "[g]razing ecosystems evolved with herbivory, heavy hoof action, nitrogen deposits, and decomposing carcasses of large migratory ungulates."33 While this is true, it is not in context in this report and portrays livestock as the species key to maintaining a grazing ecosystem. However, this does not assess the different levels of native grazing in different ecosystems or acknowledge that certain grazing

ecosystems evolved with heavier grazing than others such as the Northern Great Plains, and this statement is unclear in its scope. The FS provides no evidence to support that the East Paradise

allotments ever experienced heavy grazing prior to the introduction of cattle, and also ignores the fact that there are still numerous native grazers on the landscape that have been displaced by cattle, which would provide the amount and type of herbivory the ecosystem evolved with were livestock removed from the system. Livestock graze the land differently than the native herbivores that evolved with the system, tending to spend more time in moist environments where they overbrowse and wallow,

creating significant impacts whereas native grazers tend to be more migratory.

This idea of cattle being a replacement for native grazers and being the only grazer currently on the landscape is further perpetuated when the FS claims that, "[w]ithout disturbance such as grazing, grasslands can accumulate large amounts of dead plant material (thatch) that can reduce the successful establishment of a diversity of native grasses and forbs. Proper management of livestock grazing and related infrastructure such as water developments can provide for various wildlife needs."34 There is not enough information provided in the analysis to support the conclusion that too much grass would

accumulate without livestock grazing. As stated previously, in the absence of cattle, other native grazers would be able to occupy this range that they may not utilize currently in the presence of cattle. In addition, native herbivores do not require extensive range infrastructure. And, contrary to the above statement, range infrastructure does not provide benefits for wildlife.

c. Impacts to Soils

29 Environmental Assessment Upland and Riparian Vegetation Report at 41.

30 Ibid citing Mueggler 1975, Clark et al. 1998, Clark et al. 2000, Brewer et al. 2007.

31 EA comments at 8 citing Mueggler, W. F. (1975). Rate and pattern of vigor recovery in Idaho fescue and bluebunch wheatgrass. Rangeland Ecology & Management/Journal of Range Management Archives, 28(3), 198-204.

32 EA comments at 14

33Environmental Assessment Upland and Riparian Vegetation Report at 29.

34 Upland and Riparian Vegetation Report at 29

Soil health is key to a healthy, functioning ecosystem and healthy soils can play a significant role in sequestering carbon. Grazing allotments such as the East Paradise grazing allotments with small areas that are suitable for grazing can face greater soil health challenges, because livestock will

congregate in the few areas that are suitable for grazing. For example, "approximately 10 percent of

DSD was noted within the primary grazing areas surveyed [in the Sixmile North allotment]. This DSD was from soil displacement and loss of organic matter in lounging areas and noxious weed presence."35 Despite the low stocking rate on this allotment, the livestock still congregate enough to cause serious damage to the soil.

Particularly concerning is the acknowledgement of the increased impacts in high concentration areas such as fencelines and water troughs considering this is the main mitigation measure for reducing livestock impacts. In the Mill Creek allotment there is "approximately 22 percent DSD within suitable rangeland areas."36 While not caused solely by livestock grazing, historic grazing has played a role in the widespread DSD, and restarting livestock grazing on this allotment would certainly exacerbate the DSD. The selected alternative authorizes

grazing on this allotment even though none will take place until the weed infestation is under control. However, to best protect the soil resources this allotment should be closed and at the very least placed in vacant status to allow for weed treatment and

ecosystem recovery. The Forest Service acknowledges that if soil stability was a priority, Alternative 1 (no grazing) would be the best option.

"Overall, the no action alternative will have the least impact on soil stability as no grazing will occur, soil cover and organic matter will increase over time and areas impacted by past wildfire in the sixmile allotment will continue to recover without any grazing pressures. Under

alternative 2, current grazing practices will continue, so minimal change is expected from

current conditions, unless grazing occurs again with the Suce Creek, Mill Creek and/or Sixmile South. If grazing resumes in any of these three allotments, cover reductions would likely occur especially in heavily grazed areas, potentially decreasing the stability of the soil and resistance to erosion." 37

The occasional monitoring plan established in this AMP is not adequate to recover soil health.

The Forest should instead close all allotments and prioritize soil stabilization.

d. Impacts to Riparian Areas and Aquatic Ecosystems

It is unclear how the FS was able to assess the current conditions of the riparian areas and

aquatic ecosystems. All site-specific data was collected between 2009 and 2013, approximately 8-12 years ago. This is of particular concern because in the Sixmile North allotment the FS reported:

"[D]espite the general high density of riparian vegetation within the reach, species diversity and plant vigor is low along parts of the stream banks. Evidence of livestock grazing including hoof prints and dung was present. The assigned PFC condition rating was "PFC" and the overall

reach susceptibility to grazing impacts was judged to be relatively high." 38

35 Soil Report at 5.

36 Ibid

37 Soil Report at 13.

38 Water/Aquatic Biota Resource Report and Biological Evaluation at 46.

Also noted was that, "it appears that past grazing pressure may have resulted in reduced presence and vigor of riparian species along the stream reach and an increase of undesirable introduced and disturbance species in the upland."39 Although the stream was rated PFC at the time of this

assessment, this was over 10 years ago and given the reach's susceptibility to grazing impacts, the current conditions are likely worse than they were when the assessment took place. In addition, the Forest stated that, "[a]lthough recent quantitative data was not available, field reviews have documented degraded conditions at some seep-spring and wetland areas within the Sixmile North allotment due to livestock and wildlife use."40 It is concerning that there has not been any recent qualitative monitoring on these allotments given the heavy reliance on the 2009-2013 data in the

analysis.

As described in our previous comments, cattle spend a disproportionate amount of time in riparian areas and can cause significant degradation in these areas which are key for plants, wildlife, birds, and insects. Considering this EA is the basis for making a site-specific decision, there must be recent site-specific analysis.

3. Inadequate Assessment of Water Developments and Fence Building

The Soil Resource Report is clear that water developments and fences can cause significant degradation.

"Detrimental soil disturbance from water features is assumed to occur within a 50-foot radius of the water feature (this equates to 0.02 acres of DSD per water feature). DSD percentages

associated with fence lines is assumed to occur on 20 feet of either side of the fence."41

Pine Creek: "Within the DSD transect no DSD was noted, although DSD does exist within the primary grazing areas along fencelines and watering areas."42

Mill Creek: "This allotment has been vacant for five years. The presence of noxious weeds was noted in several of the primary grassland grazing areas, with bare soil also present between the weeds. Overall compaction throughout the primary and secondary grazing areas was low, but was noted along repeated trailing areas,

fencelines and adjacent to water tanks."43

"Detrimental soil disturbance from grazing practices is based on concentrated use in watering and fenceline areas."44

Despite these known environmental impacts, the Forest Service failed to provide any site specific analysis instead saying that site-specific analysis of range infrastructure is "not needed to understand and disclose the effects of new infrastructure," and that "[e]ffects are largely mitigated by design criteria and the lack of environmental harm these developments can cause."45 However, this does not address concerns submitted in our previous comments regarding the number, location, and

39 Ibid.

40 Ibid at 49.

41 Soil Resource Report at 3.

42 Ibid at 4.

43 Ibid at 5.

44 Ibid at 5.

45 FONSI at 19.

nature of water developments. While the FS can state that design criteria mitigates impacts, this does nothing to educate the public as to what those design criteria entail, which would likely differ depending on the type of water development, and the location. Additionally, the FS can hardly say that there is a lack of environmental harm caused by these developments considering the majority of DSD in the allotments are surrounding water developments and fencelines. It would then stand to reason that the more developments constructed, the more damage. Additionally, although the allotments themselves contain several thousand acres, the number of suitable acres within each allotment is quite small comparatively, meaning that even 0.02 acres surrounding a water development can amount to a significant disturbance if numerous water developments are built. Because the Forest Service failed to disclose how many developments they plan to build, there is no way to adequately assess this potential impact.

Further, the Forest Service failed to respond to our previous comments46 regarding the assumption that water developments will remove livestock from riparian areas and thus reduce

livestock impacts to those sensitive systems. There are numerous studies that conclude that providing

artificial water in uplands does little to draw cattle away from riparian areas.47 The failure to respond to these previous comments and address the previously provided literature is a violation of NEPA and must be remedied.

4. Improper Use of the Idea of "Adaptive Management"

Despite our previous comments describing the true definition of adaptive management,48 the Forest Service maintains that selecting alternative 3 for the Mill Creek, Pine Creek, Elbow Creek, and Sixmile North allotments is providing "adaptive management." However, this is simply flexibility. As defined in our previous comments, adaptive management is a rigorous, systematic approach that

closely monitors responses from complex ecosystems. This requires gathering information, developing a hypothesis and implementing the hypothesis as a management action that will be closely monitored. Then, the process begins again as monitoring reveals something about the hypothesis and management. With adaptive management there are specific triggers that will inform a new hypothesis and future management. However, the East Paradise Grazing allotments AMP does not include any of this information. In fact, as described above, there is no recent data for riparian areas and aquatic systems,

46 EA comments at 11-12.

47 See L.D. Bryant, Response of Livestock to Riparian Zone Exclusion, Journal of Range Management, Vol. 35, No. 6 (Nov. 1982), pp. 780-785 (concluding that "Neither salt placement nor alternate water location away from the riparian zone influenced livestock distribution appreciably."). See also J. Carter et al. Upland Water and Deferred Rotation Effects on Cattle Use in Riparian and Upland Areas, Rangelands, Vol. 39 (2017), 112, 117 (concluding, based on a four year study of an allotment in Utah that "Upland water developments and supplements do not overcome the propensity of cattle to linger in riparian areas, resulting in overgrazing and stream damage, and therefore do not lead to recovery of these damaged systems."); R.L. Gillen, Cattle Distribution on Mountain Rangeland in Northeastern Oregon, Journal Of Range Management 37(6), November 1964, pp. 549-53 ("Water distribution was not correlated with grazing patterns in uplan[d] plant communities.").

Failure to address this scientific literature would constitute a separate NEPA violation. See 40 C.F.R. [sect] 1502.9(b) (requiring that each final EIS respond to "any responsible opposing view which was not adequately discussed in the draft statement."); Ctr. for Biological Diversity v. U.S. Forest Serv., 349 F.3d 1157, 1168 (9th Cir. 2003) (finding Forest Service's failure to disclose and respond to evidence and opinions challenging EIS's

scientific assumptions violated NEPA); Seattle Audubon Soc'y v. Moseley, 798 F. Supp. 1473, 1482 (W.D. Wash. 1992) ("The agency's explanation is insufficient under NEPA -not because experts disagree, but because the FEIS lacks reasoned discussion of major scientific objections."), aff'd sub nom. Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704 (9th Cir. 1993) ("[i]t would not further NEPA's aims for environmental protection to allow the Forest Service to ignore reputable scientific criticisms that have surfaced").

48 EA comments at 13

meaning the Forest Service has not even completed the first step in a true adaptive management system--information gathering.

Another aspect of adaptive management is close monitoring. However, the proposed monitoring schedule is not sufficient despite what the FS claims. To truly understand how a management decision is impacting a resource, regular, specific, and quantitative monitoring must take place. Monitoring frequency of every five years or "as needed" does not meet this requirement. Even if this level of monitoring was adequate for true adaptive management, it does not seem that this has taken place previously, raising the question of whether any monitoring will be able to occur. The fact that the most recent data for this site-specific project was seven years ago, calls into question the

capacity of the Forest to apply the appropriate amount of monitoring to truly apply an adaptive management approach.

Adaptive management requires more specificity, not less, and this EA does not include enough specific information for it to be considered adaptive management. All this is truly doing is providing more flexibility, and an excuse to not include more specifics regarding measures that will mitigate the impacts of livestock grazing.

5. Inadequate Analysis and Response to Comments

The Forest Service claimed that, "the issues raised did not warrant additional analysis; rather, most of the concerns raised in public comment only required a clarification of the proposed action and analysis findings."49 We disagree. As mentioned several times throughout this objection, the lack of recent data is concerning. When making a site-specific decision it is imperative that recent,

site-specific data is used to make that decision. The failure of the Forest Service to collect this recent data is a failure to base the assessment on an accurate environmental baseline. Numerous studies were provided regarding the impacts of early season grazing on native bunchgrasses, the competition between big game and livestock, the efficacy of coexistence measures at reducing carnivore-livestock conflict, and the failure of off-stream water sources to draw cattle away from riparian areas. However, these studies were largely ignored. The issues raised in our previous comments do not simply require clarification, they require additional analysis so that the Forest and the public understand the

environmental baseline, and the likely impacts of the proposed decision on the vegetation, aquatic resources, and wildlife on these allotments.

6. The NEPA Shell Game

Livestock grazing is "authorized" in the project area in the Gallatin Forest Plan, as there is nothing in the plan that specifically closes allotments in the area. Because Forest Plans are completed at the Forest Planning level the Forest regularly claims that site-specific analysis is not required because this will be completed at the project level. The Forest Service maintains that livestock grazing is subject to this decision structure and thus requires site specific NEPA analysis for changes in livestock grazing management.

The analysis provided in East Paradise EA, however, does not accurately reflect the current

conditions. Scoping for this proposal began in 2013, and little to no quantitative monitoring took place in the time between scoping and the issuance of the EA. This is a theme throughout this objection. If this is the required site-specific analysis, there must be more detailed, specific, and up to date data to

Thus, although range is specifically mentioned in the Act, it does not mean that it must be included as a use in all instances. Due to changes in wildlife presence, increased drought related to climate change, and a declining demand for public lands livestock and grazing opportunities,

consideration must be given to reducing harm rather than simply allowing all uses.

2. Resource Specific Concerns

a. Impacts to Wildlife

Numerous wildlife species are adversely affected by livestock grazing in the East Paradise grazing allotments. Particularly at risk for adverse impacts is the threatened grizzly bear. Grizzly bears remained federally protected under the Endangered Species Act and thus protection of this species must be a priority for any decision made by the Forest Service (FS). The biological evaluation found that the action of reissuing permits for the East Paradise grazing allotments is likely to adversely affect grizzly bears. However, the EA, FONSI, and accompanying assessment documents contain inadequate analysis of the various impacts to grizzly bears that occur due to livestock grazing as well as inadequate coexistence measures to reduce grizzly-livestock conflict and the subsequent removal of grizzly bears.

According to the 2020 Yellowstone Ecosystem Subcommittee mortality reduction report and recommendations,4 conflict with livestock is a primary source of mortality for grizzly bears outside of the recovery zone but inside the Demographic Monitoring Area (DMA). In addition, at the recent IGBC meeting, John Steuber from APHIS-Wildlife Services gave a presentation entirely based on the premise that livestock-grizzly conflicts are increasing, and therefore coexistence measures must also begin to increase. Every grazing allotment in the project area is within the DMA, and the expansion of the Sixmile North allotment extends into the recovery zone, where the entire Sixmile South allotment resides. However, instead of fully assessing the potential for grizzly-livestock conflict based on relevant data, the FS downplayed the likelihood of conflict, and the impacts to the grizzly bear population were conflict to occur and bears removed in response.

The Selected Alternative Wildlife Addendum 5 cites a 2019 research paper6 that sought to better understand the dynamics that increased livestock grizzly conflicts. This paper identified certain

allotment characteristics that were associated with higher levels of livestock depredation. Among these were the size of the allotments, ruggedness, remoteness/human presence, and number of livestock.

While this paper is cited, there does not appear to be a comprehensive analysis of how each of these factors may impact the likelihood of livestock-grizzly conflict on each allotment reviewed in this EA. The insights of the paper are not applied. In fact, the Wildlife Addendum claims that because of the small amount of suitable grazing acres, that the likelihood of depredation is reduced. However, if this results in the concentration of livestock in a smaller area, this may in fact serve to increase the likelihood of conflict. In addition, Wells et al., found that there were higher documented cattle depredations by bears and wolves on forested pastures with little human supervision. On the Sixmile

4 Pils, A. et al. (2020) Recommendations for reducing bear-human conflicts and grizzly bear mortalities in the Yellowstone Ecosystem: a report to the Yellowstone Ecosystem Subcommittee.

5 Selected Alternative Wildlife Addendum at 14-15

6 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

North allotment "[l]ounging areas were commonly found in primary conifer rangeland areas."7 If any of the East Paradise allotments, or suitable grazing acres on these allotments exist in a more remote

and forested setting, the Forest Service must take this into consideration when authorizing livestock grazing to best understand and mitigate the impacts to grizzly bears. Because of the added challenges associated with managing livestock in such rugged and remote settings, the Forest Service must assess and disclose if these conditions exist on these grazing allotments. If these conditions do exist, the

allotments are not appropriate for livestock grazing due to the increased risk to grizzly bears.

In addition, if the Forest Service does choose to authorize livestock grazing on the East Paradise allotments,

there must, at the very least, be strong requirements for coexistence measures. The FONSI concludes that, "given the low likelihood of a depredation/self-defense event and subsequent removal or mortality of a grizzly bear, the growing population of grizzly bear, and the multitude of management actions that can be taken to mitigate a depredation event, I find the potential effects are not significant."8 This conclusion relies heavily on the use of management actions to reduce the likelihood of grizzly-livestock conflict to ensure the potential effects are not significant. Yet, the mitigation measures that are listed in the AMP are inadequate. While Wells et al., state that "the utility of carcass removal in reducing depredations...remains unclear, especially on open range farther from human settlement,"9 they also say that removing or rendering livestock carcasses can be an effective method to reduce human-carnivore conflicts. However, the only guidance is to move carcasses at least a half mile away from any camping facilities, or at least 200 yards from live streams, springs, lakes, riparian areas, system roads and trails, and trailheads.10 Full livestock carcass removal would better

address the potential for human-carnivore conflict and may help reduce future depredations.

Additionally, the AMP should require permittees and their representatives to carry bear spray when working within allotments, rather than to just strongly recommend the use of bear spray.

Next, number seven only says that "[t]he Forest and District will continue to identify and implement opportunities that reduce the potential for grizzly bear conflicts."11 This does not specify what conflict prevention measures are being explored and what may be implemented. In our previous comments we provided a list of measures that should be implemented were livestock grazing

authorized in the East Paradise allotments. However, none of the measures we recommended were included in the Draft Decision so we have included them again. These prevention measures should be applied to any livestock grazing permit as they have been developed to reduce both wolf and

grizzly-livestock conflicts. These measures include:

? Immediately removing and composting livestock carcasses found on the allotments;

? Removing sick or injured livestock from the allotments, so they are not targeted by wolves or grizzlies;

? Delaying turnout until after early to mid-June if an active wolf den site is within 1 mile of an

allotment unit, so deer will be birthing fawns and can provide an abundant and easy prey source for wolves;

7 Soil Resource Report at 5.

8 FONSI at 14

9 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

10 Selected Alternative Wildlife Addendum at 4.

11 Ibid.

? If an active wolf den site is within or adjacent to an allotment, delay turnout of calves in the area until after they average 200 lbs. in weight to minimize depredation potential;

? Prohibit allotment management activities by humans near active wolf den sites during the denning period, to avoid human disturbance of the site;

? Prohibit placing salt or other livestock attractants near wolf dens or rendezvous sites, to minimize cattle use of these sites;

? In the event of depredation, if future depredations might occur, livestock should be moved to private pastures;

? During times that livestock are in a unit with an active wolf den site or rendezvous site, require the permittee to inspect that unit at least 2 days/week;

? Managing grazing livestock near the core areas (dens, rendezvous sites) of wolf territories to minimize wolf-livestock interactions, such as by placing watering sites, mineral blocks, and supplemental feed away from wolf core areas;

? Increase the frequency of human presence by using range riders.

Proactive nonlethal deterrents are the best way to reduce grizzly bear mortality due to conflict with livestock, yet none of these are incorporated into the AMPs. Instead, the likelihood of depredations and subsequent management removals of grizzlies is discussed as a given. The FS states that "[i]t is feasible that there would be an increased risk of surprise encounters with forest users or livestock producers and an increased risk of livestock losses (through depredation) that could lead to bear injuries or mortalities through management removals."12 These removals are accepted even with the finding that livestock grazing on the East Paradise allotments is likely to adversely affect grizzly bears. The FS simply explains this away saying that "[r]emoval and relocation of grizzly bears, if it were to occur, would likely result in the short-term reduction of grizzly bear abundance in the project area itself, and to some extent the larger vicinity, at least until new bears are recruited into the area through emigration."13 However, this does not consider the impact of these management removals if the grizzlies killed are females. Currently, the grizzly bear population in the United States exists in several isolated populations. Scientists have found that without the ability for movement between the

populations, they will start to suffer from genetic isolation, a finding that was upheld by the 9th Circuit Court of Appeals, when the court blocked the Fish and Wildlife Service's 2017 attempt to delist the

Yellowstone grizzly.14 As female grizzly bears drive the population, the loss of these due to livestock conflict should not be deemed acceptable.

The possibility of grizzly removal due to conflicts with livestock is similarly downplayed because the FS states that no grizzly bear depredations have occurred on these allotments. However, the FS also states that there have been no grizzly bear depredations on cattle on the Forest,15 which is a false statement. According to Montana Wildlife Services Annual Animal Damage Management Work Plans from 2017-2019, there were one adult cow and two calves killed by grizzlies in 2017, with one

calf injured; a cow that was reportedly killed by a grizzly bear but never confirmed in 2018; and one adult cow confirmed to be killed by a grizzly in 2019. It is unclear why the FS chose to misrepresent

this in the Selected Alternative Wildlife Addendum. Given that the Wells et al. paper also discloses that 25 percent of grizzly depredations on livestock within the DMA during the study period of 1992-2014

12 Ibid at 14.

13 Ibid at 15.

14Crow Indian Tribe v. US, 965 F.3d 662 (9th Cir. 2020).

15 Ibid.

occurred on the Custer Gallatin National Forest,16 the false claim that no grizzly bear depredations have occurred on the Forest is even more confounding.

An additional omission is the lack of analysis regarding the impact of declining whitebark pine on grizzly bear diets. In our previous comments17 we suggested the Forest Service assess the likely future availability of key food sources due to the December 2, 2020 proposal to list whitebark pine under the Endangered Species Act. There have been numerous studies that suggest grizzly bears supplement their diet with more meat when whitebark pine nuts are less available,18 yet the Forest Service failed to analyze how this may impact grizzly depredations in the project area.

The cumulative impacts of livestock grazing on the East Paradise allotments in conjunction with private land activities are also not adequately considered. In the Wildlife Services work plans, they state that, "[i]t's important to recognize that in many cases, livestock losses occur on properties (e.g. Federal, State, private) adjacent to FS lands and often a portion of the total predator take on FS property is a consequence of those losses."19 Aside from stating that "[w]hen the expected impacts of the proposed project area combine with those of these private actions, there would be a cumulative impact on grizzly bear in the action area,"20 the analysis of such impacts is completely missing. If a

cumulative negative impact could occur from authorizing livestock grazing on the East Paradise allotments, the Forest Service must seek to fully understand and mitigate this impact.

Finally, it is surprising that there is not a Biological Opinion and Incidental Take Statement associated with this project. The allotments clearly overlap with grizzly bear habitat and the chance that grizzly bears will depredate on livestock does exist. Because conflict with livestock is a leading cause of death for grizzly bears within the Greater Yellowstone Ecosystem, this threat must be taken seriously and analyzed at the appropriate levels.

In addition to the impacts to grizzly bears, the reauthorization of grazing on any of the East Paradise allotments has impacts on other wildlife species, most notably wolves, bison, deer, and elk. Similar to grizzly bears, coexistence measures to reduce wolf-livestock conflicts are not adequate in the AMPs. In fact, wolves are hardly mentioned in any of the disclosed analyses. Despite wolves being federally delisted, they remain a Region 1 sensitive species in Montana,21 and thus some level of protection for the species must be granted. While there is no information regarding whether wolf depredations have occurred on the East Paradise allotments, the Forest should act as if the possibility

exists to avoid killing wolves in response to wolf-livestock conflict. With the recently passed bills in the 2021 Montana Legislature, wolves will face greater hunting and trapping pressure and thus must be

16 Wells, S.L., L.B. McNew, D.B. Tyers, F.T. VanManen, and D.J. Thompson. 2019. Grizzly Bear Depredation on Grazing Allotments in the Yellowstone Ecosystem. The Journal of Wildlife Management 83(3):556-566; 2019; DOI: 10.1002/jwmg.21618

17 EA comments at 3

18 van Manen, F.T, Costello, C.M., Haroldson, M.A., Bjornlie, D.D., Ebinger, M.R., Gunther, K.A., Thompson, D.J., Higgs, M.D., Tyers, D.B., Cain, S.L., Frey, K.L., Aber, B., Schwartz, C.C. (2015). Response of Grizzly Bears to Changing Food Resources in the Greater Yellowstone Ecosystem. Yellowstone Science 23(2): 2015, pages

26-31.; Costello, C. M., van Manen, F. T., Haroldson, M. A., Ebinger, M. R., Cain, S. L., Gunther, K. A., & Bjornlie, D. D. (2014). Influence of whitebark pine decline on fall habitat use and movements of grizzly bears in the Greater Yellowstone Ecosystem. Ecology and evolution, 4(10), 2004-2018.

19 Montana Wildlife Services Annual Animal Damage Management 2019 Work Plan.

20 Selected Alternative Wildlife Addendum at 17.

21 Sensitive Species List, Forest Service, Region 1, February 2011

protected from this additional harm on public lands. The non-lethal coexistence measures listed above should be applied to any grazing allotment that overlaps wolf habitat if it is authorized for grazing.

The FONSI again ignores concerns we brought up in our previous comments22 regarding the impacts of livestock grazing on deer and elk forage. While there are very small areas suitable for cattle grazing in each allotment, these may also be the most suitable for elk and deer, yet these native grazers are displaced to steeper elevations, or onto private property. The EA admits that "[t]he no grazing

alternative may also encourage elk to remain on National Forest lands and alleviate distribution problems that can occur with elk seeking available forage on adjacent private lands."23 Having elk remain on Forest Service lands may also alleviate depredation concerns as they, a natural prey source, would be the most readily available prey to grizzlies and wolves.

b. Impacts to Vegetation

The FONSI states that, "[w]hile there is scientific literature that provides evidence that domestic livestock grazing can have adverse effects on the natural and human environment, the

analysis has fully analyzed and disclosed these effects."24 While this acknowledges adverse effects of livestock grazing in regards to vegetation, it fails to address these adverse effects. This

acknowledgement also fails to address numerous studies presented in our previous comments regarding the efficacy of utilization limits and the assumption that earlier season grazing will reduce timothy without harming native bunchgrasses.

First, the East Paradise Range Environmental Assessment Upland and Riparian Vegetation Report claims that "[a]ll livestock grazing alternatives analyzed in the EA, including the preferred alternative, apply cattle grazing at light to moderate grazing intensity."25 According to numerous

studies, moderate grazing in semi-arid grasslands, desert, and coniferous forest rangelands, involves

about 35-45% use of forage,26 implying that light use is somewhat less than this. While most utilization limits outlined in the AMPs do fall within this definition of light to moderate use, the allowable utilization level of 50 percent for early season riparian areas is still out of place and the reasoning behind this number is not appropriately supported. Further, research recommends levels of 25% utilization for livestock and 25% for wildlife

with 50% remaining for watershed protection.27 So

although the Upland and Riparian Vegetation Report claims that this utilization level is adequate for native grass protection, the research included here and in our previous comments suggests otherwise.28

Next, there is not an adequate explanation of how harm to native bunchgrasses will be avoided during early season grazing. Instead, the Upland and Riparian Vegetation report states that "[c]attle

22 EA comments at 1-2

23 EA at 23

24 FONSI at 11.

25 Environmental Assessment Upland and Riparian Vegetation Report at 41

26 Holechek, J. L., Gomez, H., Molinar, F., & Galt, D. (1999). Grazing studies: what we've learned. Rangelands Archives, 21(2), 12-16. citing: (Johnson 1953, Klipple and Costello 1960, Beetle et at. 1961, Paulsen and Ares 1962, Houston and

Woodward 1966, Launchbaugh 1967, Martin and Cable 1974, Skovlin et al. 1976, Sims et al. 1976).

27 Galt, Dee, Francisco Molinar, Joe Navarro, Jamus Joseph and Jerry Holechek. 2000. Grazing capacity and stocking rate. Rangelands 22(6):7-11.

28 EA comments at 8 citing: Mueggler, W. F. (1975). Rate and pattern of vigor recovery in Idaho fescue and bluebunch wheatgrass. Rangeland Ecology & Management/Journal of Range Management Archives, 28(3), 198-204.; Holechek,

J. L., Pieper, R. D., & Herbel, C. H. (2011). Range management: principles and practices (No. Ed. 6). Prentice-Hall.

grazing applied in June can be used to purposely defoliate timothy and suppress its vigor and growth. In turn, vigor and growth of bluebunch wheatgrass and Idaho fescue will increase, provided cattle grazing in June does not harm these desirable native grasses."29 This does not provide any evidence that cattle grazing in June will

avoid harming native grasses, potentially making this technique of early grazing to reduce timothy more harmful than beneficial. Additionally, it is unclear how the FS plans to manage that considering the cited studies that claim, "moderate grazing intensity in late spring-early summer does not harm bluebunch wheatgrass or Idaho fescue on foothill and mountain rangeland, provided moderate grazing does not occur in late spring-early summer more often than two successive years,"30 which is significantly different from research cited in our EA comments that bluebunch

wheatgrass may require six years of nonuse for recovery from a one-time removal of 50 percent of the shoot system during the active growing period, even in an environment of over 17 inches of precipitation.31 This must be remedied.

Finally, the Upland and Riparian Vegetation report draws a false equivalence between livestock grazing and native grazers despite our previous comments to this point.32 The FS states that "[g]razing ecosystems evolved with herbivory, heavy hoof action, nitrogen deposits, and decomposing carcasses of large migratory ungulates."33 While this is true, it is not in context in this report and portrays livestock as the species key to maintaining a grazing ecosystem. However, this does not assess the different levels of native grazing in different ecosystems or acknowledge that certain grazing

ecosystems evolved with heavier grazing than others such as the Northern Great Plains, and this statement is unclear in its scope. The FS provides no evidence to support that the East Paradise

allotments ever experienced heavy grazing prior to the introduction of cattle, and also ignores the fact that there are still numerous native grazers on the landscape that have been displaced by cattle, which would provide the amount and type of herbivory the ecosystem evolved with were livestock removed from the system. Livestock graze the land differently than the native herbivores that evolved with the system, tending to spend more time in moist environments where they overbrowse and wallow,

creating significant impacts whereas native grazers tend to be more migratory.

This idea of cattle being a replacement for native grazers and being the only grazer currently on the landscape is further perpetuated when the FS claims that, "[w]ithout disturbance such as grazing, grasslands can accumulate large amounts of dead plant material (thatch) that can reduce the successful establishment of a diversity of native grasses and forbs. Proper management of livestock grazing and related infrastructure such as water developments can provide for various wildlife needs."34 There is not enough information provided in the analysis to support the conclusion that too much grass would

accumulate without livestock grazing. As stated previously, in the absence of cattle, other native grazers would be able to occupy this range that they may not utilize currently in the presence of cattle. In addition, native herbivores do not require extensive range infrastructure. And, contrary to the above statement, range infrastructure does not provide benefits for wildlife.

c. Impacts to Soils

29 Environmental Assessment Upland and Riparian Vegetation Report at 41.

30 Ibid citing Mueggler 1975, Clark et al. 1998, Clark et al. 2000, Brewer et al. 2007.

31 EA comments at 8 citing Mueggler, W. F. (1975). Rate and pattern of vigor recovery in Idaho fescue and bluebunch wheatgrass. Rangeland Ecology & Management/Journal of Range Management Archives, 28(3), 198-204.

32 EA comments at 14

33Environmental Assessment Upland and Riparian Vegetation Report at 29.

34 Upland and Riparian Vegetation Report at 29

Soil health is key to a healthy, functioning ecosystem and healthy soils can play a significant role in sequestering carbon. Grazing allotments such as the East Paradise grazing allotments with small areas that are suitable for grazing can face greater soil health challenges, because livestock will

congregate in the few areas that are suitable for grazing. For example, "approximately 10 percent of

DSD was noted within the primary grazing areas surveyed [in the Sixmile North allotment]. This DSD was from soil displacement and loss of organic matter in lounging areas and noxious weed presence."35 Despite the low stocking rate on this allotment, the livestock still congregate enough to cause serious damage to the soil.

Particularly concerning is the acknowledgement of the increased impacts in high concentration areas such as fencelines and water troughs considering this is the main mitigation measure for reducing livestock impacts. In the Mill Creek allotment there is "approximately 22 percent DSD within suitable rangeland areas."36 While not caused solely by livestock grazing, historic grazing has played a role in the widespread DSD, and restarting livestock grazing on this allotment would certainly exacerbate the DSD. The selected alternative authorizes grazing on this allotment even though none will take place until the weed infestation is under control. However, to best protect the soil resources this allotment should be closed and at the very least placed in vacant status to allow for weed treatment and

ecosystem recovery. The Forest Service acknowledges that if soil stability was a priority, Alternative 1 (no grazing) would be the best option.

"Overall, the no action alternative will have the least impact on soil stability as no grazing will occur, soil cover and organic matter will increase over time and areas impacted by past wildfire in the sixmile allotment will continue to recover without any grazing pressures. Under

alternative 2, current grazing practices will continue, so minimal change is expected from

current conditions, unless grazing occurs again with the Suce Creek, Mill Creek and/or Sixmile South. If grazing resumes in any of these three allotments, cover reductions would likely occur especially in heavily grazed areas, potentially decreasing the stability of the soil and resistance to erosion." 37

The occasional monitoring plan established in this AMP is not adequate to recover soil health.

The Forest should instead close all allotments and prioritize soil stabilization.

d. Impacts to Riparian Areas and Aquatic Ecosystems

It is unclear how the FS was able to assess the current conditions of the riparian areas and

aquatic ecosystems. All site-specific data was collected between 2009 and 2013, approximately 8-12 years ago. This is of particular concern because in the Sixmile North allotment the FS reported:

"[D]espite the general high density of riparian vegetation within the reach, species diversity and plant vigor is low along parts of the stream banks. Evidence of livestock grazing including hoof prints and dung was present. The assigned PFC condition rating was "PFC" and the overall

reach susceptibility to grazing impacts was judged to be relatively high." 38

35 Soil Report at 5.

36 Ibid

37 Soil Report at 13.

38 Water/Aquatic Biota Resource Report and Biological Evaluation at 46.

Also noted was that, "it appears that past grazing pressure may have resulted in reduced presence and vigor of

riparian species along the stream reach and an increase of undesirable introduced and disturbance species in the upland."39 Although the stream was rated PFC at the time of this

assessment, this was over 10 years ago and given the reach's susceptibility to grazing impacts, the current conditions are likely worse than they were when the assessment took place. In addition, the Forest stated that, "[a]lthough recent quantitative data was not available, field reviews have documented degraded conditions at some seep-spring and wetland areas within the Sixmile North allotment due to livestock and wildlife use."40 It is concerning that there has not been any recent qualitative monitoring on these allotments given the heavy reliance on the 2009-2013 data in the

analysis.

As described in our previous comments, cattle spend a disproportionate amount of time in riparian areas and can cause significant degradation in these areas which are key for plants, wildlife, birds, and insects. Considering this EA is the basis for making a site-specific decision, there must be recent site-specific analysis.

3. Inadequate Assessment of Water Developments and Fence Building

The Soil Resource Report is clear that water developments and fences can cause significant degradation.

"Detrimental soil disturbance from water features is assumed to occur within a 50-foot radius of the water feature (this equates to 0.02 acres of DSD per water feature). DSD percentages

associated with fence lines is assumed to occur on 20 feet of either side of the fence."41

Pine Creek: "Within the DSD transect no DSD was noted, although DSD does exist within the primary grazing areas along fencelines and watering areas."42

Mill Creek: "This allotment has been vacant for five years. The presence of noxious weeds was noted in several of the primary grassland grazing areas, with bare soil also present between the weeds. Overall compaction throughout the primary and secondary grazing areas was low, but was noted along repeated trailing areas, fencelines and adjacent to water tanks."43

"Detrimental soil disturbance from grazing practices is based on concentrated use in watering and fenceline areas."44

Despite these known environmental impacts, the Forest Service failed to provide any site specific analysis instead saying that site-specific analysis of range infrastructure is "not needed to understand and disclose the effects of new infrastructure," and that "[e]ffects are largely mitigated by design criteria and the lack of

environmental harm these developments can cause."45 However, this does not address concerns submitted in our previous comments regarding the number, location, and

39 Ibid.

40 Ibid at 49.

41 Soil Resource Report at 3.

42 Ibid at 4.

43 Ibid at 5.

44 Ibid at 5.

45 FONSI at 19.

nature of water developments. While the FS can state that design criteria mitigates impacts, this does nothing to educate the public as to what those design criteria entail, which would likely differ depending on the type of water development, and the location. Additionally, the FS can hardly say that there is a lack of environmental harm caused by these developments considering the majority of DSD in the allotments are surrounding water developments and fencelines. It would then stand to reason that the more developments constructed, the more damage. Additionally, although the allotments themselves contain several thousand acres, the number of suitable acres within each allotment is quite small comparatively, meaning that even 0.02 acres surrounding a water development can amount to a significant disturbance if numerous water developments are built. Because the Forest Service failed to disclose how many developments they plan to build, there is no way to adequately assess this potential impact.

Further, the Forest Service failed to respond to our previous comments46 regarding the assumption that water developments will remove livestock from riparian areas and thus reduce

livestock impacts to those sensitive systems. There are numerous studies that conclude that providing

artificial water in uplands does little to draw cattle away from riparian areas.47 The failure to respond to these previous comments and address the previously provided literature is a violation of NEPA and must be remedied.

4. Improper Use of the Idea of "Adaptive Management"

Despite our previous comments describing the true definition of adaptive management,48 the Forest Service maintains that selecting alternative 3 for the Mill Creek, Pine Creek, Elbow Creek, and Sixmile North allotments is providing "adaptive management." However, this is simply flexibility. As defined in our previous comments, adaptive management is a rigorous, systematic approach that

closely monitors responses from complex ecosystems. This requires gathering information, developing a hypothesis and implementing the hypothesis as a management action that will be closely monitored. Then, the process begins again as monitoring reveals something about the hypothesis and management. With adaptive management there are specific triggers that will inform a new hypothesis and future management. However, the East Paradise Grazing allotments AMP does not include any of this information. In fact, as described above, there is no recent data for riparian areas and aquatic systems,

46 EA comments at 11-12.

47 See L.D. Bryant, Response of Livestock to Riparian Zone Exclusion, Journal of Range Management, Vol. 35, No. 6 (Nov. 1982), pp. 780-785 (concluding that "Neither salt placement nor alternate water location away from the riparian zone influenced livestock distribution appreciably."). See also J. Carter et al. Upland Water and Deferred Rotation Effects on Cattle Use in Riparian and Upland Areas, Rangelands, Vol. 39 (2017), 112, 117 (concluding, based on a four year study of an allotment in Utah that "Upland water developments and supplements do not overcome the propensity of cattle to linger in riparian areas, resulting in overgrazing and stream damage, and therefore do not lead to recovery of these damaged systems."); R.L. Gillen, Cattle Distribution on Mountain Rangeland in Northeastern Oregon, Journal Of Range Management 37(6), November 1964, pp. 549-53 ("Water distribution was not correlated with grazing patterns in uplan[d] plant communities.").

Failure to address this scientific literature would constitute a separate NEPA violation. See 40 C.F.R. [sect] 1502.9(b) (requiring that each final EIS respond to "any responsible opposing view which was not adequately discussed in the draft statement."); Ctr. for Biological Diversity v. U.S. Forest Serv., 349 F.3d 1157, 1168 (9th Cir. 2003) (finding Forest Service's failure to disclose and respond to evidence and opinions challenging EIS's scientific assumptions violated NEPA); Seattle Audubon Soc'y v. Moseley, 798 F. Supp. 1473, 1482 (W.D. Wash. 1992) ("The agency's explanation is insufficient under NEPA -not because experts disagree, but because the FEIS lacks reasoned discussion of major scientific objections."), aff'd sub nom. Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704 (9th Cir. 1993) ("[i]t would not further NEPA's aims for environmental protection to allow the Forest Service to ignore reputable scientific criticisms that have surfaced").

48 EA comments at 13

meaning the Forest Service has not even completed the first step in a true adaptive management system--information gathering.

Another aspect of adaptive management is close monitoring. However, the proposed monitoring schedule is not sufficient despite what the FS claims. To truly understand how a management decision is impacting a resource, regular, specific, and quantitative monitoring must take place. Monitoring frequency of every five years or "as needed" does not meet this requirement. Even if this level of monitoring was adequate for true adaptive management, it does not seem that this has taken place previously, raising the question of whether any monitoring will be able to occur. The fact that the most recent data for this site-specific project was seven years ago, calls into question the

capacity of the Forest to apply the appropriate amount of monitoring to truly apply an adaptive management approach.

Adaptive management requires more specificity, not less, and this EA does not include enough specific information for it to be considered adaptive management. All this is truly doing is providing more flexibility, and an excuse to not include more specifics regarding measures that will mitigate the impacts of livestock grazing.

5. Inadequate Analysis and Response to Comments

The Forest Service claimed that, "the issues raised did not warrant additional analysis; rather, most of the concerns raised in public comment only required a clarification of the proposed action and analysis findings."49 We disagree. As mentioned several times throughout this objection, the lack of recent data is concerning. When making a site-specific decision it is imperative that recent,

site-specific data is used to make that decision. The failure of the Forest Service to collect this recent data is a failure to base the assessment on an accurate environmental baseline. Numerous studies were provided regarding the impacts of early season grazing on native bunchgrasses, the competition between big game and livestock, the efficacy of coexistence measures at reducing carnivore-livestock conflict, and the failure of off-stream water sources to draw cattle away from riparian areas. However, these studies were largely ignored. The issues raised in our previous comments do not simply require clarification, they require additional analysis so that the Forest and the public understand the

environmental baseline, and the likely impacts of the proposed decision on the vegetation, aquatic resources, and wildlife on these allotments.

6. The NEPA Shell Game

Livestock grazing is "authorized" in the project area in the Gallatin Forest Plan, as there is nothing in the plan that specifically closes allotments in the area. Because Forest Plans are completed at the Forest Planning level the Forest regularly claims that site-specific analysis is not required because this will be completed at the project level. The Forest Service maintains that livestock grazing is subject to this decision structure and thus requires site specific NEPA analysis for changes in livestock grazing management.

The analysis provided in East Paradise EA, however, does not accurately reflect the current

conditions. Scoping for this proposal began in 2013, and little to no quantitative monitoring took place in the time

between scoping and the issuance of the EA. This is a theme throughout this objection. If this is the required site-specific analysis, there must be more detailed, specific, and up to date data to

49 FONSI at 7

base a decision on. Without this, it is a violation of NEPA as there is not an accurate environmental baseline, and the Forest Service failed to consider relevant research to the project.

7. Leaving the Allotments Vacant Does Not Provide The Same Ecosystem and Wildlife Benefits as Closing Allotments

While we are encouraged that the Suce Creek and Sixmile South Allotments will remain vacant, we remain concerned that this means that they can be opened again in the future. Leaving allotments vacant does not provide the same long term protections from the resource degradation caused by livestock grazing. Livestock grazing is one of the most ubiquitous uses of federal public

lands and it is rare to see areas without these widespread and long-term impacts. However, there is an opportunity to let these grazing allotments recover and provide the same ecosystem benefits that we see in nearby Yellowstone National Park. The Greater Yellowstone Ecosystem supports a diverse array of wildlife species, many of which are only found in a few other places. Due to the proximity to the park, providing a buffer of protection for these animals outside of the park could be broadly beneficial.

It is also concerning that the Mill Creek allotment will not be held in vacant status. Based on the

assessment, the already degraded landscape within the allotment cannot support livestock grazing at

any point in the near future without causing further damage. By leaving this allotment open, it is more likely to be subject to grazing in the near term.

Closing all of the East Paradise Grazing allotments, or at least the Suce Creek, Sixmile South, and Mill Creek allotments, would not only provide added resource protections to allotments that you have already chosen to not allow livestock grazing on, but it would be consistent with the Gallatin Forest Plan. The Forest Plan states that, "some allotments will be closed."50 Rather than continuing to authorize grazing in an area with key wildlife habitat, the Forest Service should instead exercise its discretion to close some allotments, including at the very least the allotments set to remain vacant following this decision. However, to provide the best ecosystem protections, we urge you to instead

choose Alternative 1 and close or vacate all of the East Paradise Grazing allotments.

49 FONSI at 7

base a decision on. Without this, it is a violation of NEPA as there is not an accurate environmental baseline, and the Forest Service failed to consider relevant research to the project.

7. Leaving the Allotments Vacant Does Not Provide The Same Ecosystem and Wildlife Benefits as Closing Allotments

While we are encouraged that the Suce Creek and Sixmile South Allotments will remain vacant, we remain concerned that this means that they can be opened again in the future. Leaving allotments vacant does not provide the same long term protections from the resource degradation caused by livestock grazing. Livestock grazing is one of the most ubiquitous uses of federal public

lands and it is rare to see areas without these widespread and long-term impacts. However, there is an opportunity to let these grazing allotments recover and provide the same ecosystem benefits that we see in nearby Yellowstone National Park. The Greater Yellowstone Ecosystem supports a diverse array of wildlife species, many of which are only found in a few other places. Due to the proximity to the park, providing a buffer of protection for these animals outside of the park could be broadly beneficial.

It is also concerning that the Mill Creek allotment will not be held in vacant status. Based on the

assessment, the already degraded landscape within the allotment cannot support livestock grazing at

any point in the near future without causing further damage. By leaving this allotment open, it is more likely to be subject to grazing in the near term.

Closing all of the East Paradise Grazing allotments, or at least the Suce Creek, Sixmile South, and Mill Creek allotments, would not only provide added resource protections to allotments that you have already chosen to not allow livestock grazing on, but it would be consistent with the Gallatin Forest Plan. The Forest Plan states that, "some allotments will be closed."50 Rather than continuing to authorize grazing in an area with key wildlife habitat, the Forest Service should instead exercise its discretion to close some allotments, including at the very least the allotments set to remain vacant following this decision. However, to provide the best ecosystem protections, we urge you to instead

choose Alternative 1 and close or vacate all of the East Paradise Grazing allotments.